

NATURAL RESOURCES CONSERVATION SERVICE

VIRGINIA CONSERVATION PRACTICE STANDARD

PRESCRIBED BURNING

(Acre)

CODE 338

DEFINITION

Applying controlled fire to predetermined area.

PURPOSES

- To control undesirable vegetation
- Prepare sites for planting or seeding
- Control plant disease
- Reduce wildfire hazards
- Improve wildlife habitat
- Restore and maintain native communities
- Improve forage production quantity and/or quality
- Slash and debris removal
- Enhance seed and seedling production
- To facilitate distribution of grazing and browsing animals.

CONDITIONS WHERE PRACTICE APPLIES

On forestland, wildlife land, native pastures, or hay meadows, and other lands as appropriate.

CRITERIA

A written burn plan must be prepared by a certified/qualified individual. Successful completion of the Virginia Certified Prescribed Burning Managers Program is recommended.

The burn must be conducted under the supervision of a qualified and trained individual. Burn within parameters as set in a burn plan.

The procedure, equipment, and the number of trained personnel shall be adequate to accomplish the intended purpose.

The expected weather conditions, human and vehicular traffic that may be impeded by heat or smoke, liability (e.g., utility lines) and safety and health precautions shall be integrated into the timing, location and expected intensity of the burn.

Timing of burning will be in keeping with soil and site conditions to maintain site productivity and minimize effects on soil erosion and soil properties (structure, soil moisture, duff layer).

Comply with applicable federal, state, and local laws and regulations, including the state's voluntary Best Management Practices (BMPs), and air pollution and fire laws.

No burning will be done in areas covered by an air pollution health advisory, alert or warning issued by the Department of Environmental Quality.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

The Virginia Department of Forestry should be contacted for information on weather and other conditions immediately prior to the burn.

Permission must be obtained from occupants of all dwellings located within 1000 feet of the burn perimeter. In addition, nearby residents and adjacent landowners must be notified of the intent to burn. The fire must be attended at all times.

The local fire department will be notified to announce intentions, to reduce public concern and false response, and to remain on alert if needed.

NRCS employees shall not participate in any type of prescribed burning.

NRCS employees must complete at least an awareness level training session on prescribed burning in order to plan this practice.

SEASON TO BURN

Winter

Most understory burning is done during the winter dormant season (December – February).

Spring

Variable weather and higher fire danger occur in the spring. Spring is generally the best season to burn for wildlife. Burn by April 1 to avoid harming most species. February – March is best for open land burning. See below for (spring) time of day restrictions.

Summer

Summer burns are used to kill undesirable hardwoods. Mid to late summer is a good time to burn logging debris because the high ambient temperatures help dry out the larger materials. Site prep burning for pine planting is best in summer.

Fall

Loblolly pines are more likely to die if crowns are severely scorched or roots are damaged at this time.

FUEL CONDITION (All Types of Burns)

Burn when fine fuel moisture is from 10 to 20 percent. Burning when the fine-fuel moisture is below 6 or 7 percent can result in damage to plant roots and the soil. When fine-fuel moisture approaches 30 percent, fires tend to burn slowly and irregularly, often resulting in incomplete burns that do not meet desired objectives. Debris from harvested areas should be burned when fuels are dry, provided soil moisture does not get too low. For proper smoke management, minimize the amount of soil in slash piles.

SUITABLE SOILS, SLOPES, AND SOIL MOISTURE CONDITIONS

Sites with mineral soils can be burned as long as there is adequate soil moisture. Damp soil protects tree roots and microorganisms. Slopes up to 25 percent can be burned with minimum danger of soil movement. Slopes greater than 25% can be burned for site preparation if a high-moisture burn is used. Prescribed burning will not be planned on organic soils.

HUMIDITY, TEMPERATURE, AND WIND CONDITIONS

Preferred relative humidity is 30 to 55 percent. Burning at relative humidities below 30 percent is dangerous; burning at humidities above 60 percent may not burn hot enough. The preferred temperature for winter burning is below 60 degrees F. When the objective is to control undesirable species, growing season burns with air temperatures above 80 degrees F. are recommended. The preferred range in windspeed in the stand is 1 to 3 mph (measured at eye level). Windspeed readings for most fire-weather forecasts are taken 20 feet above ground at open locations. The minimum 20-foot windspeed for burning is about 6 mph and the maximum is about 20 mph.

TIME OF DAY

Prescribed fires should normally be ignited between 10 a.m. and noon. Ground ignition should be stopped before 3 p.m. and aerial

ignition before 4 p.m. to allow adequate time for the fire to burn out before atmospheric dispersion conditions deteriorate. Be sure to observe 4 p.m. burning restrictions February 15 – April 30.

PRECAUTIONARY MEASURES

The principal danger in the use of prescribed fire is smoke. High fuel moisture creates more smoke than low moisture conditions. Smoke should be kept away from smoke-sensitive areas such as public roads, airports, and populated areas. A proper burning plan considers all aspects of smoke management. All burning should be done in accordance with applicable smoke management guidelines and regulations. State and local laws must be followed. The burn plan must be kept on-site throughout the burning period.

Burning can be hazardous to personnel conducting it. Safety is the paramount consideration. Safety measures for personnel include being familiar with the burning plan and having adequate communication, transportation, and protective clothing. Avoid smoke where poison ivy is burned.

CONSIDERATIONS

Burning should be managed with consideration for wildlife needs such as nesting and feeding cover.

For wildlife, frequency of burning varies, but is usually required about once every 3 years. The area burned should consist of approximately one-third of the managed area.

Existing barriers such as lakes, streams, wetlands, roads, and constructed firebreaks are important to the design and layout of this practice. They will minimize installation of fire lines.

Careful consideration will be given to the effects on air quality (smoke management), water quality, and impacts to the soil. Proper mop-up of smoldering stumps and debris after the fire will minimize residual smoke effects.

Liability and safety precautions are to be planned before the burn and monitored during the burn.

Consider cultural resources and threatened and endangered plants and animals when planning this practice.

Weather parameters and other data that affect fire behavior should be monitored during the burn. Carbon release should be minimized by the timing and burn intensity.

Consider the location of utilities such as electric power lines and natural gas pipelines to prevent damage to the utility and avoid personal injury.

Smoke impacts should be considered before the burn and monitored during the burn.

PLANS AND SPECIFICATIONS

Specifications (burn plan) for burning shall be prepared for each site. Specifications shall be recorded using approved burn plan forms, specification sheets, narrative statements in the conservation plan, or other acceptable documentation.

As a minimum, a burning plan will include:

- Description of the burn area including present vegetation cover
- Objective(s) and timing of burn
- Acceptable conditions for prescribed burn including wind conditions, relative humidity, air temperature, and fuel conditions
- Preparation of the area for burning
- Equipment/personnel needs/safety requirements
- Special precaution areas
- Firing technique
- Contingency plan in event of fire escape

OPERATION AND MAINTENANCE

Operation and maintenance requirements are not applicable for this practice.

REFERENCES

1. A Guide for Prescribed Fire in Southern Forests, Technical Publication R8-TR11, USDA, Forest Service, 1989.
2. Prescribed Fire – Smoke Management Guide, June 1998, Virginia Department of Forestry.

NATURAL RESOURCES CONSERVATION SERVICE
VIRGINIA CONSERVATION PRACTICE STANDARD

PRESCRIBED BURNING

Approved Practice Narratives

(Acre)

CODE 338

338 D1 Prescribed Burning: The area will be improved for wildlife by the application of a prescribed burn. Fire should be re-applied periodically to maintain habitat improvements. About one-third of the area should be treated at any one time. A burn and smoke management plan will be developed by a certified burn manager and applied by trained and qualified individuals.

338 D2 Prescribed Burning: The area will be maintained in an early successional stage of vegetation by the periodic application of a controlled burn. A burn and smoke management plan will be developed by a certified burn manager and applied by trained and qualified individuals.

338 D3 Prescribed Burning: The logged-over area will be burned to prepare the site for tree planting. A burn and smoke management plan will be developed by a certified burn manager and applied by trained and qualified individuals.

338 D4 Prescribed Burning: The previously thinned forest stand will be improved for wildlife and timber production by the application of a prescribed burn. Fire should be reapplied periodically to maintain improvements. A burn and smoke management plan will be developed by a certified burn manager and applied by trained and qualified individuals.

338 D5 Prescribed Burning: The area will be managed for grazing distribution and forage enhancement by application of a prescribed fire. Fire should be re-applied periodically to maintain optimum forage conditions. A burn and smoke management plan will be developed by a certified burn manager and applied by trained and qualified individuals.

338 D6 Prescribed Burning: Litter will be reduced in the area being prepared for native grass establishment by the application of a prescribed burn. A burn and smoke management plan will be developed by a certified burn manager and applied by trained and qualified individuals.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326 W. Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.